WHAT IS CLAIMED IS:

1. A lithographic apparatus comprising:

an illumination system constructed to provide a beam of radiation;

an article support structure constructed to support an article to be placed in a beam path of said beam of radiation on said article support structure, said article support structure having a plurality of supporting protrusions, said plurality of supporting protrusions defining a support zone to provide a plane of support; and

a backfill gas feed arranged in said support zone to provide a backfill gas that flows to a backside of said article when supported by said article support structure, said backfill gas feed structured to provide an improved thermal conduction between said article and said article support structure;

said support zone being surrounded by a boundary having a reduced height relative to said plane of support so that the flow of said backfill gas is permitted to exit said support zone.

2. A lithographic apparatus according to claim 1, wherein

said article is substantially flat, and said plane of support is substantially flat.

3. A lithographic apparatus according to claim 1, wherein

said boundary comprises a boundary wall defining a boundary wall height that lies below said plane of support.

4. A lithographic apparatus according to claim 3, wherein

said boundary wall defines a gap between a top of said boundary wall and said plane of support, said gap having a height of more than 50 nm.

5. A lithographic apparatus according to claim 1, wherein

said boundary does not include a boundary wall.

6. A lithographic apparatus according to claim 1, further comprising:

a vacuum pump system to provide a vacuum pressure to operate said lithographic apparatus in vacuum pressure conditions, said vacuum pump system operating to eliminate backfill gas flowing from said backside of said article.

7. A lithographic apparatus according to claim 6, wherein

said vacuum pump system includes a suction zone enclosing said support zone.

8. A lithographic apparatus according to claim 1, wherein

said article is clamped on said article support structure by an electrostatic clamp.

9. A lithographic apparatus according to claim 1, wherein

said article support structure is a support constructed to support a patterning device, said patterning device constructed to impart a cross-section of said beam of radiation with a pattern.

10. A lithographic apparatus according to claim 1, wherein

said article support structure is a substrate table to hold a substrate to be patterned by said beam of radiation onto a target portion of said substrate.

11. An article support structure for a lithographic apparatus, comprising:

a plurality of supporting protrusions, said plurality of protrusions defining a support zone and providing a plane of support to support an article; and

a backfill gas feed constructed and arranged in said support zone to provide a flow of backfill gas to a backside of the article when supported by said plurality of supporting protrusions, to provide an improved thermal conduction between the article and said article support structure;

said support zone being surrounded by a boundary having a reduced height relative to said plane of support so that said flow of backfill gas is permitted to exit said support zone.

12. An article support structure according to claim 11, wherein

said plane of support is substantially flat.

13. A lithographic apparatus comprising:

means for providing a beam of radiation;

means for supporting an article to be placed in a beam path of said beam of radiation on said article support structure, said means for supporting defining a support zone;

means for providing a flow of backfill gas in said support zone for providing improved thermal conduction between said article and said means for supporting said article; and

means for surrounding said support zone so that said flow of backfill gas is permitted to exit said support zone.